



Random sampling

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Chemical analysis is undertaken to help us make decisions about particular masses of a test material. Does this shipment of peanuts fall within the permitted limit for the concentration of aflatoxins? What should I pay for this batch of tin ore? How much phosphate fertiliser should I apply to this field? Can we release today's effluent stream into the river? Is the iridium content of this geological layer higher than that of the adjacent beds? In instances like these we need information about a large amount of test material (the *target*), but we can only remove for analysis a much smaller amount, the *sample*.

... *a* ... *b* ... *a* ... *T* ...
 ... *T* ... *b* ... *a* ...
 ... *R* ...

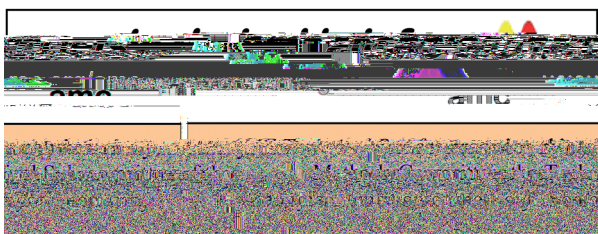
Random and systematic sampling patterns

A ... ? *W* ...
 ... *B* ...
 ... *H* ... ?
 ... *T* ... *T* ...
 ... *f* ...

T ... *W* ... *B* ...
 ... *M* ...
 ... *a* ... *a* ... *W* ...
 ... *L* ...
 ... *Ara* ...
 ... *F* ... *1A* ... *T* ...
 ... *I* ... *a* ...
 ... *F* ... *1C* ...
 ... *A* ... *a* ... *f* ... *a* ...
 ... (*a* ...) ... (*F* ... *1B*) ... *T* ...
 ... *T* ...

The meaning of sampling bias

B ... *I* ...
 ... *Q* ...
 ... *a* ...



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$a, ra,$

... of the ...

The pros and cons of randomisation

... ? I ... I ...
F .1A ... (...) ... B ...
F .2A). T ...

